

## File 2 Scattering Radius

- For LRF=3, manual states (Section 2.2.1.2):  
    **APL**             $\ell$ -dependent scattering radius. If zero, use  $APL=AP$ .
- Present interpretation: if APL is used and all levels are specified, AP is not required
- Inconsistent with Section 2.1 for non-resonant isotopes:  
    No resonance parameters are given except for the scattering radius AP.  
    ***AP is included for the convenience of users who need an estimate of the potential scattering cross section.*** It is not used to calculate a contribution to the scattering cross section, which in this case is represented entirely in File 3.
- AP also provided for all other File 2 formats in use now
- The need to calculate a potential scattering XS is not limited to non-resonant isotopes

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- Proposed revision to Section 2.2.1.2 for LRF=3:  
**APL**  $l$ -dependent scattering radius. If zero, use APL=AP. If APL is provided for all NLS levels, a value for AP is still required.
- Provides consistency with other resonance formats by requiring AP for all presently used resonance formats